

ch. 4.1  
p. 200 c. 18

IF TWO ANGLES OF ONE TRIANGLE  
ARE EQUAL IN MEASURE TO  
TWO ANGLES OF ANOTHER  
TRIANGLE, THEN THE THIRD  
ANGLE IN EACH TRIANGLE IS  
EQUAL TO THE THIRD ANGLE  
IS ANOTHER TRIANGLE.

PRACTICE

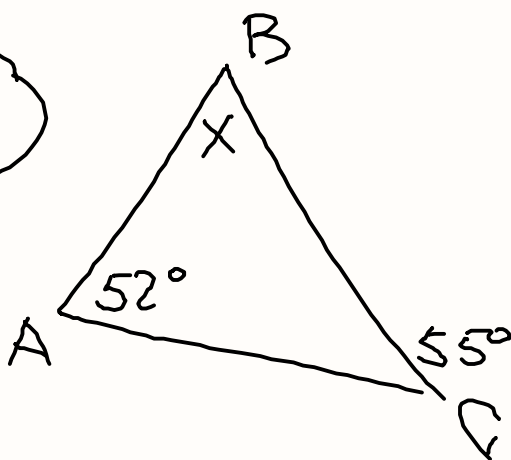
p. 201

# 2-4, 6 p. 201

# 8

p. 202

2.



GIVEN:  $\angle A = 52^\circ$   
 $\angle C = 55^\circ$

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$m\angle X = ?$

THE SUM OF INTERNAL ANGLES

IN A TRIANGLE IS  $180^\circ$  (TRIANGLE SUM CONJ.)

$$m\angle X = 180^\circ - (52^\circ + 55^\circ) = 180^\circ - 107^\circ = 73^\circ$$

$$m\angle X = 73^\circ$$

(3)

ALL ANGLES  $x$  ARE

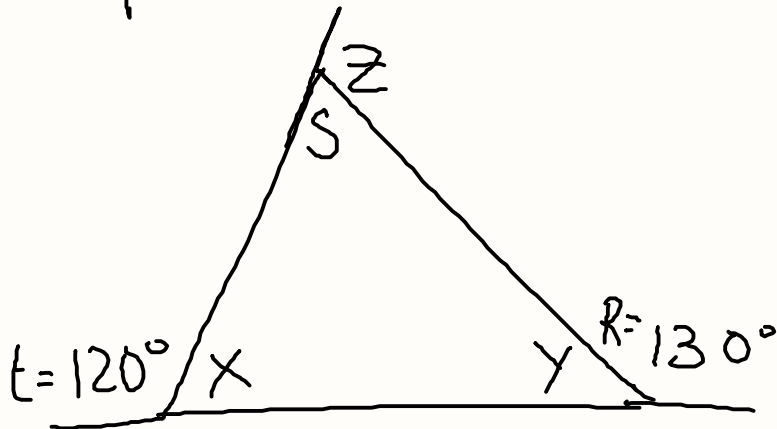
CONGRUENT

$$x + x + x = 180^\circ$$

$$3x = 180^\circ$$

$$x = 60^\circ$$

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GIVEN:
$t = 120^\circ$
$R = 130^\circ$
<hr/>
$mZ = ?$

$$mX = (180^\circ - 120^\circ) = 60^\circ$$

ANGLES  $t$  AND  $X$   
ARE SUPPLEMENTARY

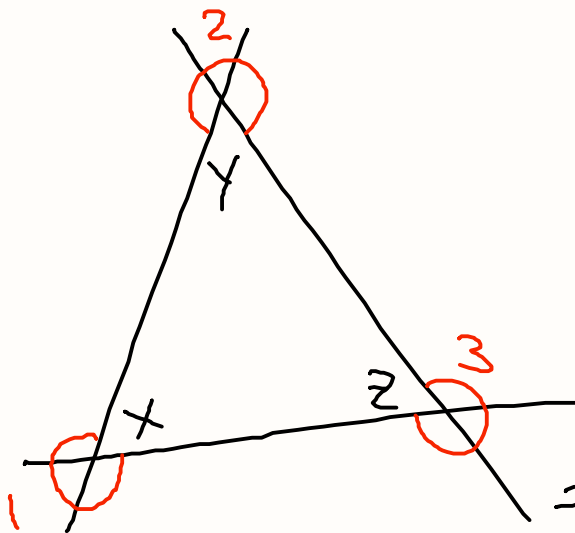
$$Y = (180^\circ - mR) = 180^\circ - 130^\circ = 50^\circ$$
$$mS = 180^\circ - (mX + mY) = 180^\circ - (60^\circ + 50^\circ) = 70^\circ$$

TRIANGLE SUM CONJECTURE

$$m\angle Z = 180^\circ - m\angle S = 180^\circ - 70^\circ = 110^\circ$$

ANGLES S AND Z ARE  
SUPPLEMENTARY ANGLES  
(THEIR SUM IS  $180^\circ$ )

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$$\therefore mX = mY = mZ$$
$$x = y = z = 60^\circ$$

GIVEN:  $\angle 1 \cong \angle 2 \cong \angle 3$

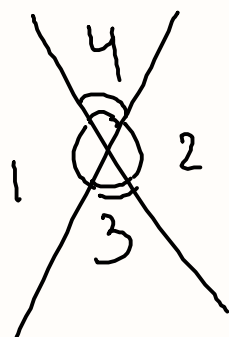
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$$mX, mY, mZ = ?$$

SINCE  $\angle 1 \cong \angle 2 \cong \angle 3$

$$\begin{aligned} 360^\circ - m\angle 1 &= \\ &= 360^\circ - m\angle 2 = \\ &= 360^\circ - m\angle 3 \end{aligned}$$

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$$\angle 1 \cong \angle 2$$

$$\angle 3 \cong \angle 4$$

HOME: p.201 #5

p.202 #8  
(SUPPLEMENTARY  
AND VERTICAL)